

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Michael Whittaker on 8/12/2010.

The application has been amended as follows:

1. (Currently Amended) A method of identifying an object having identification information, and wherein said identification information is used to verify the identity of the object, said method comprising:

(a) determining at least one characteristic of a magnetic field of at least a portion of a tag, thereby obtaining a first specific magnetic signal, wherein the tag comprises (i) a host material inherently having a disordered plurality of pores on a surface thereof, said pores having a size of at least 10 nm, said host material being at least substantially non-magnetic, and (ii) a magnetic material positioned within at least some of the inherently existing disordered plurality of pores ~~after formation of said pores~~, wherein the specific magnetic signal providing identification information for the object represents the disorder of the plurality of pores, and

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(b) storing signal information relating to said first specific magnetic signal, said stored signal information forming the identification information of the object.

2. (Original) The method of claim 1, wherein the step of determining at least one characteristic of said magnetic field of the at least one portion of said tag comprises a

measurement of said characteristic of the site specific magnetic field over a surface of said portion of the tag, thereby mapping a magnetic fluctuation signal.

3. (Original) The method of claim 1, wherein storing signal information relating to the first specific magnetic signal comprises storing data corresponding to the at least one characteristic of said magnetic field over said portion of the tag.

4. (Original) The method of claim 1, further comprising:

subsequently determining the at least one characteristic of the magnetic field of said portion of the tag, thereby obtaining a second specific magnetic signal, and comparing said second specific magnetic signal with the previously stored identification information.

5. (Original) The method of claim 4, further comprising:

magnetizing the tag prior to each determination of the at least one characteristic of the magnetic field of said portion of the tag.

6. (Original) The method of claim 1, further comprising:

recording information on the tag by magnetizing the magnetic material present in groups of pores into poled domains, or patterning pores of the tag with magnetic material.

7. (Original) The method of claim 1, wherein the tag is attached to the object to be identified after obtaining the first specific magnetic signal.

8. (Original) The method of claim 1, wherein the tag is attached to the object to be

identified before obtaining the first specific magnetic signal.

9. (Original) The method of claim 1, wherein the tag comprises a substrate supporting the

host material.

10. (Original) The method of claim 9, wherein the substrate comprises material selected

from the group consisting of metal, silicon, silica, glass, plastic, ceramic and combinations thereof.

11. (Original) The method of claim 1, wherein the host material is selected from the group consisting of alumina, zeolites, group III-V materials, polymers, silicon oxide, zinc oxide and tin oxide.

12. (Original) The method of claim 1, wherein the host material comprises nanotubes.

13. (Original) The method of claim 12, wherein the nanotubes are cast within a second host material.

14. (Original) The method of claim 1, wherein the magnetic material is selected from the

group consisting of Fe, Ni, Co, their alloys, oxides, mixtures and combinations thereof.

15. (Original) The method of claim 1, wherein the pores of the host material have a diameter between 100 nm to 500 nm.

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16. (Original) The method of claim 1, wherein the tag further comprises at least one coating layer.

17. (Original) The method of claim 1, wherein said at least one characteristic of the magnetic field of the portion of the tag is highly dependent on the disorder of the tag.

18. (Original) The method of claim 17, wherein the disorder is due to a feature selected from the group consisting of pore size, shape and orientation of pores, percentage of pore filling, crystal orientation of magnetic material in the tag, and combinations thereof.

19-22 (Cancelled)

23. (Currently Amended) A method of producing a system for object identification, said method comprising:

(a) determining at least one characteristic of the magnetic field of at least a portion of a tag, thereby obtaining a first specific magnetic signal, wherein the tag comprises (i) a host material inherently having a disordered plurality of pores on a surface thereof, said pores having a size of at least 10 nm, said host material being at least substantially non-magnetic, and (ii) a magnetic material positioned within at least some of the inherently existing disordered plurality of pores ~~after formation of said pores~~, wherein the specific magnetic signal providing identification information for the object represents the disorder of the plurality of pores, and

(b) storing signal information relating to said first specific magnetic signal, said stored signal information forming the identification information of an object to be identified.

24. (Cancelled)

25. (Currently Amended) A tag carrying identification information, said identification information is used to verify an object's identity, said tag comprising:

(a) a host material inherently having a disordered plurality of pores on a surface thereof, said pores having a size of at least 10 nm, said host material being at least substantially non-magnetic,

(b) a magnetic material positioned within at least some of the inherently existing disordered plurality of pores ~~after formation of said pores~~, wherein the identification information for the object is a magnetic signal representing the disorder of the plurality of pores, and

(c) at least one coating layer covering at least partially a surface of the host material.

26. (Original) The tag of claim 25, wherein said coating layer comprises a material which has a bulk yield stress greater than 50 MN/m₂.

27-28 (Cancelled)

29. (Currently Amended) An object having a tag carrying identification information, said identification information is used to verify the object's identity, said tag comprising:

(a) a host material inherently having a disordered plurality of pores on a surface thereof, said pores having a size of at least 10 nm, said host material being at least substantially non-magnetic,

(b) a magnetic material positioned within at least some of the inherently existing disordered plurality of pores ~~after formation of said pores~~, wherein the identification information for the object is a magnetic signal representing the disorder of the plurality of pores, and

(c) at least one coating layer covering at least partially a surface of the host material.

30. (Cancelled)

31. (Currently Amended) A system for object identification, said system comprising:

(a) a tag carrying identification information, said identification information is-used to verify an object's identity, wherein said tag comprises (i) a host material inherently having a disordered plurality of pores on a surface thereof, said pores having a size of at least 10 nm, said host material being at least substantially non magnetic, and (ii) a magnetic material positioned within at least some of the inherently existing disordered plurality of pores ~~after formation of said pores~~, wherein the identification information for the object is a magnetic signal representing the disorder of the plurality of pores, and

(b) a data storage medium for storing data corresponding to a magnetic signal obtained from at least a portion of the tag.

32. (Cancelled)

2. The text of those sections of Title 35, U.S. Code not included in this section can be found in the prior office action.

3. Claims 19-22, 24, 27, 28, 30 and 32 have been cancelled by the applicant.
No new claims are added.

4. Claims 1-18, 23, 25, 26, 29 and 31, now re-numbered as claims 1-23 are pending.

Response to Arguments

5. Applicant's argument relative to prior art rejection in light of the amendments noted by this action, and the telephone interview conducted on 8/12/2010 have been found persuasive (please see the attached Interview Summary).

Allowable Subject Matter

6. Amended claims 1-18, 23, 25, 26, 29 and 31, now re-numbered as claims 1-23 are allowed.

Examiner's Statement of Reasons for Allowance

7. The following is an examiner's statement of reasons for allowance:

8. None of the prior art of record, either taken by itself or in any combination, would have anticipated or made obvious the invention of the present application at or before the time it was filed.

Conclusion

9. Any comments considered necessary by the applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays,

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should preferably accompany the issue fee. Such submission should be clearly labeled "comments on statement of reasons for allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farid Homayounmehr whose telephone number is 571 272 3739. The examiner can normally be reached on 9 hrs Mon-Fri, off Monday biweekly.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Farid Homayounmehr/
Primary Examiner

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